

H-A

**Notice of Allowability**

Application No.

10/722,204

Applicant(s)

AMLESHI ET AL.

Examiner

PHAN T.H. PALMER

Art Unit

2874

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 01/03/2005.
2. ☒ The allowed claim(s) is/are 17-32.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 10/27/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

*Phan T.H. Palmer*  
**PHAN T. H. PALMER**  
 PRIMARY EXAMINER  
05/22/2005

### **REASONS FOR ALLOWANCE**

1. The following is an examiner's statement of reasons for allowance: the claims are allowable over prior art of record, because none of the references in alone or in combination discloses:

**+++ A method of coupling a laser diode to an optical fiber**

**comprising:**

- placing the laser diode on a substrate;
- depositing a polymer layer on at least a part of the substrate between the laser diode and the optical fiber;
- locating a light emitting area of the laser diode; and
- forming a waveguide on the polymer layer between the light emitting area of the laser diode and the optical fiber, as discloses in claim 17.

**+++ A method of coupling a laser diode to an optical fiber**

**comprising:**

- placing a cladding layer on a substrate;
- placing the laser diode on the cladding layer;
- depositing a polymer layer on the laser diode and the cladding layer;
- locating a light emitting area of the laser diode; and
- forming a waveguide on the polymer layer between the light emitting area of the laser diode and the optical fiber, as discloses in claim 31.

**+++ A method of coupling a laser diode to an optical fiber**

**comprising:**

- depositing a buffer layer on a substrate;
- depositing a polymer layer on the buffer layer;
- depositing a cladding layer on the polymer layer;
- etching a trench into the layers to a depth such that the laser diode

placed in the trench would be aligned with a plane of the polymer layer;

- placing the laser diode in the trench;
- locating a light emitting area of the laser diode; and
- forming a waveguide the polymer layer between the light emitting area

of the laser diode and the optical fiber, as discloses in claim 32.

The underlined steps of the method as discloses in claims 17, 31, and 32 are critically, since the emitting area of a laser diode needs to be accurately aligned with its waveguide facet in order to achieve good coupling efficiency of the laser source, and reduce the time consuming and costly.

The Huignard et al. (4,286,838) reference discloses a compact optical structure comprising a semiconductor emitter junction, a laser or a light emitting diode coupled to a plane waveguide formed by a layer of photo-polymer deposited on a substrate with a suitable index.

The Fern et al. (6,487,354 B1) reference discloses a method for forming a single mode optical waveguide on a substrate.

Both references do not disclose the method with the underlined steps of claims 17, 31, and 32.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### **CONTACT INFORMATION**


2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHAN T.H. PALMER whose telephone number is (571) 272-2354. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RODNEY B. BOVERNICK can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**PTHP**  
**05/22/2005**

  
**PHAN T. H. PALMER**  
**PRIMARY EXAMINER**